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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,543	04/01/2004	Marek Matusz	TH-2458 02 (US) HS:KNL	1003
23632	7590	08/09/2005	EXAMINER	
SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463			JOHNSON, CHRISTINA ANN	
			ART UNIT	PAPER NUMBER
			1725	
DATE MAILED: 08/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/816,543

Applicant(s)

MATUSZ ET AL.

Examiner

Christina Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/22/04:8/12/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-15, drawn to a catalyst composition, classified in class 502, subclass 347.
  - II. Claims 16-18, drawn to a packed catalyst bed, classified in class 502, subclass 439.
  - III. Claims 19-21, drawn to a process for making ethylene oxide, classified in class 549, subclass 534.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions comprise different configurations and are not disclosed as capable of use together. Further, none of the features required by Group I are required by Group II and vice versa.
3. Inventions (I and III) and (II and III) are each related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the

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products as claimed can be used in a materially different process of use, such as a catalyst for the reduction of nitrogen oxides.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II or Group III, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Mr. Charles Stewart on May 24, 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-15. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Liu et al.

Johnson (US 4,532,231) discloses a catalyst composition comprising silver and an alkali metal promoter such as sodium, potassium, rubidium, and/or cesium (column 1, lines 30-35 and column 2, lines 25-32). It is taught that the catalyst preferably comprises 3-50% by weight silver, more preferably 5-20% by weight silver (column 3, lines 55-60). It is taught that the silver is carried on a porous support material, preferably alpha alumina, having an apparent porosity of 40-60% (column 3, lines 25-30). In an example, Johnson details the use of a hollow cylindrical support 8 mm long having a surface area of 2.1 m<sup>2</sup>/g, an inner diameter of 3mm, an outer diameter of 8mm, and an L/D ratio of 1 (Example 1). The reference details that the catalyst composition is prepared by impregnation (column 3, lines 15-20 and Examples).

The reference does not specifically disclose the water absorption of the support material. However, because the reference details the use of a support material having a high porosity, it is the position of the examiner that the water absorption would inherently be the same. When the examiner has reason to believe that the functional language asserted to be critical for establishing novelty in claimed subject matter may in

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fact be an inherent characteristic of the prior art, the burden of proof is shifted to Applicants to prove that the subject matter shown in the prior art does not possess the characteristics relied upon. *In re Fitzgerald et al.* 205 USPQ 594.

The difference between the reference and the claims is that the reference does not disclose that the internal diameter of up to about 30% of the outer diameter. In an example, the inner diameter is 37% of the outer diameter. However, it is noted that the instant claims require "about 30%" which would include values slightly higher than 30%. It is the examiner's position that the amounts in question are so close that it is prima facie obvious that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773.

Additionally, Liu et al. (US 6,511,938) teaches the size and shape of the support (i.e. for silver catalysts useful in the manufacture of ethylene oxide) are variable factors and the particular size and shape selected are peculiar to the reactor employed, the gas flow required, and the pressure drop across the reactor (column 1, line 53 – column 2, line 5).

It is the position of the examiner that the prior art recognizes the shape and configuration of the catalyst support to be a result effective variable and therefore, one of ordinary skill would have been motivated to optimize the inner/outer diameters of the cylinder taught by Johnson in order to obtain the best results from the catalyst. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that there the general conditions of a claim are disclosed in the prior art,

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discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215.

10. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Liu et al. as applied to claims 1-12 and 14 above, and further in view of Thorsteinson et al.

The teachings of Johnson in view of Liu et al. are as described above for claims 1-12 and 14.

The modified disclosure of Johnson further does not disclose a combination of promoters as required by claims 13 and 15.

Thorsteinson et al. (US 5,187,140) discloses a silver containing catalyst useful in the production of ethylene oxide which further contains one or more promoters, including alkali metals, rare earth metals, rhenium, sulfur, molybdenum, tungsten, and chromium (columns 11-14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified to the composition taught by Johnson to include the additional promoters taught by Thorsteinson et al. in light of the teaching by Thorsteinson et al. that such promoters are conventional in silver catalysts for the production of ethylene oxide and may be used in combination. Because all of the catalysts taught by the prior art are used in the same process of use, one would have a reasonable expectation of success from the combination.

#### ***Double Patenting***

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-41 and 43 of copending Application No. 10/431,489. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Application 10/431,489 claims a catalyst composition comprising silver and a promoter compound on a support material, wherein said support material is in the form of a shaped agglomerate having a hollow cylinder geometric configuration such that the L/D ratio of said shaped agglomerate is in the range of about 0.3 to 1.6 and the internal diameter is in the range upwardly to about 30 percent of the outer diameter. Refer to claims 1, 2, 9, 16, and 23.

The difference between the instant claims and those of '489 is that '489 does not claim the entire range instantly claimed; however, the range overlaps the range instantly claimed. With respect to the encompassing and overlapping ranges previously discussed, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time of invention to select the portion of the prior art's range which



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is within the range of the applicants' claims because it has been held prima facie case of obviousness to select a value in a known range by optimization for the results. *In re Boesch*, 205 USPQ 215. Additionally, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### **Conclusion**

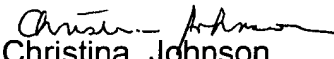
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Johnson whose telephone number is (571) 272-1176. The examiner can normally be reached on Monday-Friday, 7:30-5, with Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Christina Johnson  
Patent Examiner  
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5/24/05

CAJ  
May 24, 2005